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APPLEGATE AREA, RE-EXAMINATION OF 1917

F.P. KEEN
JULY 21, 1917

FILE COPY FOREST INSECT LABORATORY, STANFORD UNIVERSITY, CALIFORNIA.

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Applegate Area.

Re-examination of 1917.

Pacific Slope Station, July 21,1917.

Period of examination:-

This Area was cruised by P.D.Sergent and F.P.Keen from May 24 to June 2 1917. 517 trees were examined and marked in 16 sections scattered over the area. The rest of the country was estimated, the marked sections being used as the basis of the estimate. The reliability of this method of reconnaissance was brought out by the fact that the number of 1915-2nd generation trees was determined as being approximately the same as was determined last year. 1630 trees were estimated as being on the area last year and the figures of this year give 1752 as the number of overwintering 1915-2 trees. The slight increase can be accounted for by the number of trees which faded after the former cruise was made. Data compiled by F.P.Keen.

Location:-

The location of this Area was described very fully in the report of last year. It includes the drainage area of the Little Applegate and Applegate Rivers and their tributaries, located in 11 townships from 38S to 41 S and Ranges 1 W to 4W in the Willamette Meridian. Approximate area 244 sq. miles. Infested Yellow pine area about 120 sq.miles.

Topography:-

Fully described in report of last year. Rough mountainous country very similiar to the rest of the Siskiyou range as that in the neighborhood of Ashland. The river bottoms are given over to agriculture, the lower foothills are heavily covered with brush. Above this is a Yellow pine belt, while higher up at the headwaters of the streams is a dense fir type.

Character of Stand:-

The grade of Yellow pine found on these areas is of a poor quality and is not considered of much value from the lumber standpoint. At the higher elevations where fir is predominate, the timber is of a good quality, but is of limited extent. In the heavier timber no infestation is to be found.

Species of Trees Affected:-

The trees affected on this area are entirely Yellow pine. Sugar pine is extremely scare if it occurs at all on the area.

Species of Insects:-

95% of the trees affected were infested with D.brevicomis.
About 3 % were attacked by D.monticolae.
A small percentage were attacked in the tops, very probably by Ips, and Buprestid work was encountered in a few instances.

Abandoned Trees:-

The only abandoned trees which were noted were those killed in 1915 by D.brevicomis. Older loss than this was very inconspicuous. As shown by the cruise of last year there wer probably 720 trees on the area killed in 1914, but these trees had turned so black and lost all of their foliage and hence did not enter into this years estimate. It is impossible to make any consistent estimate of black top trees which can not be seen from the distance

Present Infestation:- Trees Marked in Intensive Cruise.

Location.	1915 2-Gen. D.brev.	1916-1st Gen D.brev.	1916-2nd.Gen D.brev.	1917 1stGen. D.brev.	Top killed 1915	Top killed 1916	Miscellaneous. D.mont Flathead	Total
T 39 S,R 1W Sec 19 .	55	21	28	1	10	4	4	
" 3 W " 27	17							
" " " 29	39	7	21	2	6	2		
" " 32	26	23	19		7		4	
" " 33	5		4	1		4		
" " 34	9	m6	7	3		1	2	
" " 35	7		2					
40S 2W 3	13	1	9	1	2	1	2	
" " 11	1		4	1				
" 3W 3	1		3					
" " 7	13	1	2					
" " 18	2		9			3		
" " 26	27	1	9		17		1	
" " 35	6		6				2	
" " 36	27	4	12				16	
" 4W 13	21	3						
Totals	269	67	135	9	42	15	31	568

Extensive Reconnaissance.

Townships	Number of Sections	Number of Trees Spotted	Estimated Number of Trees.
T 38 S, R 2 W	12	61	200
" 3 W	13	10	30
39 S, 1 W	9	150	450
" 2 W	36	305	900
" 3 W	36	308	800
" 4 W	17	20	100
40 S, 1 W	27	10	50
" 2 W	36	57	200
" 3 W	36	231	700
" 4 W	16	46	120
41 S 3 W	11	53	150
TOTALS	249	1251	3700

Classification of Total Trees Based on Percentages Determined from Intensive Cruise.

1915-2ndGen.	1916-1st Gen.	1916-2ndGen.	Topkilled1916	Miscellaneous.
1752	437	880	96	535

MEMORANDUM.

In the reconnaissance that covered a part of the Applegate area in July, 1918, not over attention was given to the work in the way of close estimates, except in three units, namely: Sterling, Williams and Thompson creeks.

The area examined includes the main Applegate river basin, with its tributary streams, from a point on the river below the town of Murphy- Twp. 37 S. R. 6 W. W.M.- to the mouth of Little Applegate- Twp. 39 S. R. 3 W. W. M.- a distance of approximately 20 miles. From this latter point the examination was extended up the Little Applegate river to a point three miles above the mouth of Sterling creek and into the basins of Sterling, Hopkins, Poormans and Forest creeks.

The general topography, stand of timber etc. of this area have been outlined in former reports, from which it may be seen, we are dealing with a situation that could not be classed with anything typical in the line of a forested area. Miles of this particular area are given over to arid mountain sides that support no growth or are taken up with brush fields.

The timber, consisting principally of yellow pine, is scattered in patches over the entire area, and ranges in quality from fair to worthless, and due to its grade and situation has but little value from any standpoint.

The destruction of timber on this area is due almost entirely to the activity of Dendroctonus brevicomis, and the present reconnaissance was carried on with the object in view to determine the relative amount of damage attributable to the two generations of 1917 when compared with those of 1916.

It is very evident that a decided decrease in the number of trees has

occurred in favor of the year 1917. This is borne out by the general appearance of the entire section, for it can be readily seen, even from a casual inspection, that old, partially defoliated trees of 1916 about double those killed in 1917 when found grouped in the same localities. It is also to be seen that in certain areas, where the 1916 trees are to be found in quite numbers, no 1917 infestation is in evidence.

This decrease for 1917 was so generally in evidence, it was decided to select the three mentioned units and subject them to an intensive examination, and from the estimates obtained draw a comparison with those given for 1916 with the idea in mind that results arrived at would be applicable to the entire area. This was done and as a result the following:

	-- Trees-- 2nd Gen.1916	--Trees-- 2nd.Gen. 1917.	
Sterling Unit	157	82	75 or 47½ % decrease
Thompson Creek Unit	46	15	31 or 67½ % "
Williams " "	16	12	4 or 25% "

From the foregoing table it is seen that these units show a general average decrease of from 40 to 50%, and there is nothing in the situation that would set these figures aside as not being representative of the entire area.

The reconnaissance also develops the fact that the field of insect infestation has not been extended to the bordering areas, but that it is still confined to the original localities of the past five years, and that in places where every opoortunity is afforded, and where it has been expected that enroachment by D. brevicomis would occur, no evidence in the way of destroyed timber for 1917 can be found that could not be offset by the number of trees killed each year for

the past twenty years. The particular locality under observation for the past three years, as being most likely to encourage the extension of infestation, is in the lower river in the vicinity of the town of Murphy. An opportunity is afforded at this place for the insects to extend their operations into a considerable body of somewhat better than average timber that, extending in a southerly and westerly direction, offers an unbroken stand into the Illinois valley, an adjoining watershed. No infestation of any consequence has developed at this point.

The following are extracts taken from field notes relative to this locality:

Murphy , July 27, 1918.

"There can certainly be no apprehension over an outbreak of insect infestation anywhere in this region from the situation at this time."

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"A good opportunity to view this section that, as to comparison of area and stand with other sections, develops practically no infestation."

"A few small trees are to be seen that were killed in 1917 and a more than equal number killed in 1916 are in evidence."

"There has been about an equal number of undersized trees killed in this area each year for the past ten years."

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"There is no infestation now, nor ever has been, worthy of note in this area."

W E Glendenning

Collected Dr. 2/7-1919

A "Weeping Spruce", (Picea breweriana) growing in the Alpine type in the higher elevations on the headwaters of the Applegate River near the Oregon-California line. May 1915.